

PATENT ABSTRACTS OF JAPAN

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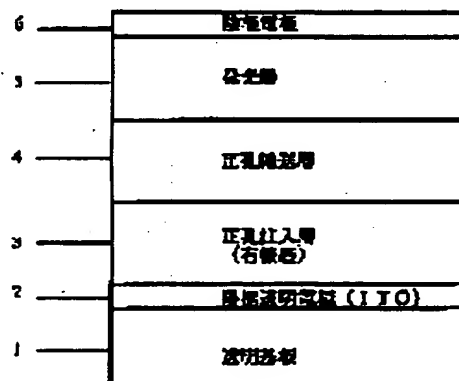
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(54) ORGANIC ELECTROLUMINESCENCE ELEMENT

(57)Abstract:

PROBLEM TO BE SOLVED: To allow a low driving voltage regardless of the work function of a negative electrode material by doping an electron accepting compound having the property to oxidize the organic compound constituting an organic layer to the organic compound of a portion kept in contact with a positive electrode as an electron accepting dopant in vacuum by the co-deposition method.

SOLUTION: A glass substrate 1 is coated with ITO having the sheet resistance of 25 Ω /(square) as a positive transparent electrode 2, α NPD having a positive hole transportation property and ferric chloride are co-deposited into a film with the thickness of 100 \AA at the mole ratio of 1:2 at the deposition speed of 3 \AA /sec under 10⁻⁶ Torr to form a positive hole injection layer 3 on the positive transparent electrode 2. The α NPD is vacuum-deposited to the thickness of 500 \AA on the same condition as a positive hole transportation layer 4 on the positive hole injection layer 3. Tris (8-quinolinolate) aluminum complex is formed at the thickness of 700 \AA on the same condition as a luminescence layer 5. Aluminum is deposited at the thickness of 1000 \AA at the deposition speed of 15 \AA /sec as a back electrode 6 serving as a negative electrode. The maximum luminance of 4700 cd/m² is obtained at 12 V.



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